

DEFENSIVE MIMICRY IN *PHALANGIDÆ*.

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WHILE in Switzerland, in September 1880, I noticed a peculiar kind of defensive mimicry on the part of an undetermined species of *phalangidae*, which I have nowhere seen recorded. In approaching a rocky ledge on the road between St. Gingolph and Novel, near the south side of Lake Geneva, my attention was attracted by what I at first supposed to be a large number of small webs with large spiders in them, but which I found, on nearing the ledge, to be a great number of *phalangidae*, or "harvest-men." On coming near the place where they were, each of them began a rather rapid dorso-ventral motion of the body, swinging it backward and forward on their legs. As the rock on which they rested was nearly perpendicular, and their eight outspread, long, and slender legs rested on the projections of the irregular rocky surface, allowing their bodies to swing in the cavities between these projections, each of them resembled very closely, viewed from a short distance, a small geometric web containing a spider, for, as I have often observed, some species of spiders, when disturbed, swing their web rapidly back and forth, while clinging at its centre. The motion of the body, in the species of *phalangidae* that I observed, was of an impulsive, jerking nature, like the motion of the spiders just mentioned, when similarly disturbed. At each sudden movement of my hand a large part of the *phalangidae*, with which the rock was dotted to the number of thousands, would recommence the motion described above, but none of

them ran away until they were touched, seeming to trust in the efficacy of their mode of imitative defense.

Can it be that the spiders which cause the before-mentioned swinging of their web when disturbed are more ill-tasting than *phalangidae* themselves,* and that the *phalangidae*, by imitation, avoid being eaten by birds? Or is it, on the contrary, the spiders which, for their own protection, imitate the *phalangidae*? That the motion described above originated with the spider and later served the *phalangidae* for protection seems to me more probable, for the spider has, to all appearances, another and a more natural purpose in shaking his web. As a sailor on deck shakes and yanks his ropes to see if they are firmly fastened and free from encumbrances, so the spider shakes his web from his central resting place to determine if each fastening is in proper order, or if an insect has tangled itself in any part of his web. The *phalangidae* would easily deceive birds by this motion, which, otherwise, for them, seems to have no explainable purpose.

Although I had often seen single specimens of *phalangidae* going through the same motions on horizontal surfaces, even while they were walking, it was left to this great multitude of specimens, hanging on a jagged ledge, to suggest, by actually deceiving me at first sight, the probable object of this strange motion. *Paris, France, 3 Dec. 1881.*

* Many species of *phalangidae* pour out a secretion when disturbed, which is sufficiently disagreeable, in smell and taste, to us; but, as tastes and distastes in man and birds do not always agree, this secretion may not be a protection from the attacks of certain birds.